# THE MOTORBIKE TAXIS IN LOME: WHO EARNS WHAT?

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## ABSTRACT

Motorbike taxis have become a major public transport mode in a number of cities in Sub-Saharan Africa. This paper examines the economic performance of motorbike taxi operators with data from a motorbike drivers survey conducted in Lomé (Togo) in 2012. According to their status in relation to the vehicle ownership, there are four main groups: drivers who own the motorbike, "work and pay" drivers, drivers who rent the motorbike from someone else and motorbike owners who do not operate the vehicle themselves and contract it to drivers in a "work and pay" scheme or a simple rental agreement. To undertake our analyses we estimate revenues, the main operating costs, the added value and cash flows. Results show that the amount of added value depends on the operating characteristics (e.g. night-time activity, number of working hours, another professional activity) and the length of service as motorbike taxi operator. The results of this empirical research provide useful inputs for policymakers for the assessment of the economic functioning of motorbike taxis systems in Sub-Saharan Africa.

*Keywords: Informal transport operator, Motorbike taxi, Revenue, Operating cost, Cash flow, Profitability, Working time, Lomé, Sub-Saharan Africa*

# 1. INTRODUCTION[1]

The low level of public intervention in the transport sector in sub-Saharan cities has been a key factor in the increasing number of small-scale operators in public transport provision. Also, rapid urbanization of peripheral areas lengthens continuously travel distances and increases public transport needs of citizens. Thus the urban transport sector represents an important source of regular or temporary employment for the male population. Those who do not have the capital for the purchase of the essential working tool, the vehicle, can find other solutions to work as public transport operator or in other transport-related activities (vehicle repairer, conductor, cokser, fuel vendor, etc.).

The motorbike taxi is the most recent type of informal transport in Sub-Saharan cities, where it appeared in the mid-1980's. This means of transport is known under a number of local names, which shows the vitality of the phenomenon and its appropriation by the populations: *okadas* in Nigeria (Mahlstein, 2009; Oyesiku, 2001), *zemidjans* or *oléyias* in Benin and Togo (Aboudou and Sounon Bouko, 2010; Agossou, 2003), *boda boda* in Kenya and Uganda (Howe, 2002; Howe and Maunder, 2004), *kabu-kabu* in Niger (Dille, 2002), *bendskins* in Cameroun (Breit Consulting, 2008; De Lima and Wioland, 2007; Sahabana, 2006). In a context where household budgets are constrained and transport expenditure is high (Diaz Olvera et al., 2008), motorbike taxis have also expanded rapidly because of low fares for short and medium trip distances. Even more, in some cities as in Lomé, they have marginalized the more traditional forms of informal transport (e.g. shared taxis) and have thus become the first mode of public transport. The commercial use of motorized two-wheelers was facilitated by the combination of three factors (Diaz Olvera et al., 2012): the shortage of transport supply, which includes the lack of means of transport (private vehicles and public transport) and the quantitative and qualitative deficiencies of the road network; the availability and low cost of factors of production (motorbikes, labour and in many cases fuel); and the deficiencies of regulation, due to the absence of relevant administrative and regulatory framework and the lack of enforcement whenever it existed.

In a general way, the activities of small-scale transport operators belong to the informal economy because of the characteristics of jobs and enterprises, such as nonconformity with all the administrative and regulatory formalities to carry on the activity, no access to bank credit, on-the-job learning or the lack of social protection (Cervero, 2000; Dimitriou and Gakenheimer, 2011). The case of the motorbike taxis does not differ from this situation (Diaz Olvera et al., 2012). Even though motorbike taxi activities are ranged within the informal economy, they constitute a heterogeneous sector which has, as yet, been subjected to little study.

This work is part of a larger empirical research on the motorbike taxi system in Lomé (Togo) and it concerns transport demand (the users) as well as transport provision (operators). Its main objective is on the one hand to estimate respectively their profits and losses and on the other hand, to draw assessments on the use of this mode of transport for the different stakeholders (users, operators) and at the community level (transport sector, the city itself).

[1] The original work is in French and the translation in English could have some errors.

This paper presents the results of the first analyses concerning motorbike taxi operators. The objective is to identify groups of operators through their most discriminating characteristics and then to analyse their differences in operating practices and incomes. The results shed light on the operators' economic rationale and the degree of professionalization, both of which are determining factors to make durable this mode of transport.
Section 2 presents the main features of the urban transport in Lomé, which has been overtaken for a long time by informal transport. Section 3 explains the database and the methodology used to find the most discriminating characteristics of the motorbike taxis operators and to estimate their incomes, by specifying the various items of cash accounts. Section 4 analyses the groups of operators according to their socio-economic and professional characteristics, the drivers' incomes and the payback period for vehicle owners.
Lastly, the conclusion broadens the focus of analysis and considers some of the drawbacks of the motorbike taxi system in Lomé.

# 2. THE INFORMAL TRANSPORT IN LOMÉ

Lomé is the administrative and economic capital city of Togo. According to the 2010 population census, nearly 1.5 million inhabitants live in Great Lomé, that is nearly one quarter of the Togolese population and two-thirds of the urban population (Bureau Central du Recensement, 2011). In this conurbation, 840,000 inhabitants live in the commune of Lomé and the rest in the six peripheral cantons (Baguida, Togblékopé, Agoenyivé, Lêgbassito, Aflao-Sagbado and Sanguéra). Located on the border with Ghana, Lomé is a very active seaport in the Gulf of Guinea. The port infrastructures are completed by a customs-free zone, which facilitates the transit of goods towards the landlocked Sahelian countries. Similarly to the other ports in the sub-region, trade is one of the main urban activities (Gervais-Lambony and Nyassogbo, 2012).
Accessibility conditions in the conurbation are bad due to the quantitative and qualitative deficiencies of the road network, which did not develop at the same pace as urban sprawl. Asphalted or paved roads are mainly located in the central districts and in the primary road network in the intermediary and peripheral areas. The rest of the roads are dirt or sand tracks. An important project for the construction and upgrading of the major roads in Lomé was launched in 2010.
The Régie Municipale des Transports Urbains, which provided public transport by bus, ceased to exist in 1982. The transport market was then filled gradually by shared taxis which existed already at the time of the RMTU, minibuses which were called "taxi-métro" and do not exist anymore, and finally, motorbike taxis which appeared in 1992 (Guézéré, 2008). The Société des Transports de Lomé (SOTRAL) started up transport provision in a sole bus route on a trial basis in 2009 and broadened its activities in 2012 by increasing the bus fleet which now operates along six routes.
The public transport market is shared today mainly between shared taxis and motorbike taxis, given that the part of Sotral buses is still very low. Actually, motorbike taxis (*oléyias* and *zémidjans* are the local names) undoubtedly dominate the market. Our field data show that four trips in public transport out of five are made by *oléyias*. Their number was estimated at 66,000 in 2006 and it would currently be of 90,000 vehicles (Guézéré, 2008, 2012), that is nearly one *oléyia* for 15 inhabitants.

The importance of *oléyias* in urban transport is explained by main two reasons. On the one hand, in a context of structural shortage of transport supply, that it be private or public, their assets in terms of quality of service (e.g. availability, ability to travel in areas with no road infrastructure and on roads in poor condition, door-to-door service, fares) are well fitted to the mobility needs of citizens. On the other hand, *oléyias* represent an employment opportunity and a potential source of income for young male citizens in an economic sector where neither the entry in the activity nor the enforcement of regulations for operation is strictly controlled.

In spite of the fact that the massive influx of Chinese motorbikes since the mid 2000's made that the price of vehicles decreased significantly (almost by half), the availability of the capital for the purchase of the motorbike still remains the principal barrier to become a *zémidjan*. Taking into account the status in relation to the vehicle ownership and the case in which the owner and the operator are not the same person, there are four groups of key stakeholders:

1. The owner-operator or self-employed operator owns the vehicle and operates it himself either in a full- or part-time basis. Working as an *oléyia* is generally his main source of income.
2. The "owner-investor" (or "absentee landlord" according to Cervero and Golub, 2011) owns a motorbike but he does not operate it himself. He hires out the motorbike to someone else. The "investor" has a job, generally not in the transport sector. The rent that he earns is an extra income and of course he depends on it less than in the case of the owner-operator.
3. The "work and pay" follows a similar scheme to the car leasing in the countries of the North and at the end of contract, the driver becomes owner of the vehicle. The terms of the "work and pay" are specified in the contract established between the vehicle owner (the "investor") and the driver: the contract duration, the fixed sum to be paid by the driver, usually on a weekly basis; the costs generated by the activity as *oléyia* (e.g. fuel, maintenance, repairs) must be supported by the driver while the vehicle owner bears the initial administrative expenses (insurance for the first year, registration license). According to our field data, the average duration of contracts is currently 18 months and comparisons with the work undertaken by Guézéré (2008) a few years ago show that contract duration has decreased.
4. The tenant-operator hires the motorbike to the vehicle owner ("investor") and pays a fixed sum on a daily or weekly basis. The commercial relation between both may be formalized through a contract and conditions may vary from case to case. The contract duration may be rather longue but the tenant will never become owner of the motorbike. Costs are shared between both parties: the owner bears the administrative expenses in relation to the vehicle ownership, as in the case of the "work and pay" plans, but also heavy repairs, if any; the renter is in charge of all the operating costs. In many cases the relation between both parties is not commercial, as in the case of students who borrow a motorbike from a relative or a friend without any rent paid to the vehicle owner. Many students work as motorbike taxis during their spare time to improve their income (Guézéré, 2012).

In some other cases the motorbike is operated successively by two or three drivers, on a daily or weekly basis. The second or third operators are substitutes and they can be engaged either by the "chief" operator or the vehicle owner himself. This type of situation is more rare and therefore rather difficult to reach for data collection.

# 3. DATA AND METHODOLOGY

The original database collected in Lomé in 2011-2012 is presented in subsection 1 and the accounting framework to estimate and the method to construct the operator typology are explained in subsection 2.

## 3.1. The database

The data used in this paper were collected for an empirical research focused on the motorbike taxi system. Data collection was structured around three surveys: a questionnaire survey of 1,220 users of public transport (Diaz Olvera et al., 2013 for the presentation of the first results), a questionnaire survey of 147 motorbike taxi operators and 19 semi-structured interviews of stakeholders (drivers and owners of vehicles, authorities in charge of public transport, trade union official). The motorbike taxi questionnaire survey is the main empirical material of this article.

Local authorities and the statistical services do not have data on the number of motorbike taxi operators and their characteristics. It has not then been possible to set up a sampling frame for obtaining a representative sample of motorbike taxi operators. Special care has nevertheless been taken to ensure that the survey sample reflects the diversity of practices among motorbike taxi operators. The survey was conducted in ten areas in Great Lomé. They were selected according to a geographical stratification of the whole conurbation, which was based on the identification of the most significant trip generators such as business places (markets, port, central business district, university, hospital) and places of public transport interchange. The questionnaires were administered during working hours, in daytime from Monday to Saturday at motorbike taxis ranks. In order to ensure respondents' availability (and thus limit selection and participation bias) and reliability of their answers (Mutiso and Behrens, 2011), operators were interviewed during off-peak periods (9-12 am and 14-16 pm). To compensate for the potential loss of customers during the interview (30-35 minutes), an incentive was provided. Each respondent received a lump sum of 300 CFA francs, which is equivalent to the fare of two average trips. Operators working during the weekend were also surveyed in order to include those working during particular time slots (evening on Saturday and/or Sunday, daytime on Sunday).

The survey questionnaire was organised into eight themes: the driver's socio-economic characteristics; the organization of his motorbike taxi (MT) activity and revenue; the vehicle owner's socio-economic characteristics (if the driver is not the owner); vehicle operating costs; security issues; regulation; relations with institutional stakeholders; and opinions on the motorbike taxi activity.

## 3.2. Calculation of the cash account

To estimate the cash flows resulting from the activity of motorbike taxis we use the methodological frame defined by Sitrass (2001) in the research on the organization, financing and profitability of public transport micro-enterprises, which concerned the case studies of four Sub-Saharan African cities (Abidjan, Bamako, Harare and Nairobi).

The case studies synthesis (Sitrass, 2001) points out that one of the characteristics of micro-scale transport enterprises is the lack of written accounts that comply with management criteria for enterprises in the formal economy. The financial rationale of small businesses takes place in the short term and the capital and the amortization are not taken into account in that rationale. The objective of micro-enterprises is that the turnover allows them "at least balanced income and expenditures (i.e., that they are solvent) and, if possible, some flow of surplus cash" (p. 7) in order to "replenish the cash spent on the investment" (p. 10). In order to calculate the cash flows generated by the activity, the Sitrass study relies on the concept of cash flow accounts, which do not integrate either the vehicle capital cost or its amortization (Fig. 1). In the case of transport micro-enterprises, the figure shows "their performance and their capacity to generate sufficient self-financing to replace their vehicles, as well as to cover finance charges when funds are borrowed for this purpose" (p. 11). More than the enterprise or the operator, it is the vehicle which constitutes the object of analysis.

| Discretionary cash flow for motorbike taxis in Lomé |
|---|
| *Revenue* |
| - Inputs<br>o Fuel<br>o Administrative services, taxes and fees (vehicle fitness certificate, trade union and taxi rank fees bribes)<br>o Technical services (oil-change, minor and heavy repairs, etc.) |
| *= Added value* |
| *= Earning Before Interest, Taxes, Depreciation, and Amortization (EBITDA)*<br>*= Operating cash flow* |
| - Operator salary |
| *= Discretionary cash flow* |

Source: adapted from Sitrass, 2001: 12

Fig. 1. The accounting frame of the activity of motorcycles-taxis

Fig. 1 presents the calculation method for the discretionary cash flow fitted to the objectives of our own research and to the available data on motorbike taxi operators. This process allows to shift gradually from the operator's turnover to the discretionary cash flow and as it will be seen below, each stage may be adjusted to the type of motorbike operator:

- The revenue is estimated from the daily receipts stated by operators, according to good and bad working days and the number of total, good and bad days per week. Transport services under contract, which are performed regularly on behalf of certain customers (e.g. escorting children to and from school) and implying weekly or monthly payments, are also included in the operator's turnover.
- The inputs are estimated as follows. Fuel costs, which are always supported by the driver and constitute the most important expenditure item, are calculated by multiplying the daily average fuel consumption by the average price paid per liter and the number of days worked. Costs related to administrative and technical services were collected directly. If the operator rents the motorbike, the survey questionnaire allows to know who pays the maintenance and

repair costs. The other expenses are supported by the driver, with the exception of the vehicle fitness certificate (for those who comply to regulations), which is paid by the motorbike owner.

- Personnel costs, which refer to the second operator's remuneration, were not taken into account given that the research focus was on motorbikes operated by a sole driver, which is the preeminent situation (85% of the vehicles in a work and pay plan or hired by a tenant-operator). Therefore, the added value, EBITDA and operating cash flow are identical.
- The operator salary was not informed directly in the survey questionnaire and it must be calculated. In the case of work and pay operators and tenant-operators, salary is calculated by subtracting the rent[2] from the added value. The result can then be used as the remuneration of owner-operators working under similar operating conditions[3]. In their case, remuneration and discretionary cash flow are closely intertwined and by taking into account an hypothetical value for their salary, the discretionary cash flow can then be calculated (by subtracting the salary from the added value).

This same analytical framework can be easily applied to the case of owners-investors to calculate the discretionary cash flow. Their revenue is the rent they are paid while possible heavy repairs constitute inputs. As in the methodological framework set out by Sitrass (2001), a salary is not assigned to them because they do not provide any work in relation to the motorbike and they are engaged in other non-transport-related activities, which provide other sources of income to meet their needs. The discretionary cash flow is then obtained by simply subtracting expenditure for heavy repairs from the rent.

Provided that the vehicle is acquired with personal funds, the payback period is calculated by dividing the purchase price[4] by the discretionary cash flow. Of course, it is underestimated if the vehicle is financed with a loan either from a financial institution, microcredit or more likely from family or friends. However, the available data do not allow to include the cost of such funding, which is nevertheless not common.

## 3.3. Method to construct an operator typology

We presented previously four broad categories of stakeholders: owner-operators (or self-employed owner), owner-investors, work and pay operators and tenant-operators. The operation of motorbike taxis is dominated by the self-employed *oléyias* (three drivers out of five). One driver out of four has a work and pay contract and one out of five rents the motorbike.

The analysis of the revenue produced by operating *oléyias* is based on the four groups of stakeholders. As seen above, when analyzing the vehicle cash account, the relevant information depends on the type of stakeholders: added value and remunerations for the work and pay operators and tenant-operators, discretionary cash flow and payback period for

[2] Rents are paid daily (30%) or weekly (57%), about 2,000 CFA francs per day (approximately 3 € - 4 US $).
[3] Day- and night-shift. High and low scenarios imputed remunerations (work and pay and other contracts, respectively) are presented in Table 1.
[4] We chose to include in the purchase price the administrative services required to start the *oléyia*. The costs for these services were collected in the survey questionnnaire and they include the licence plate and the insurance, which are paid right away during the first year, and around 5000 CFA francs for bribes to ensure a fast vehicle registration. The amount of money represents an extra cost of about 50,000 - 55,000 CFA francs.

the self-employed owners and owner-investors. It should be recalled that for self-employed owners, the payback period is estimated through an hypothetical value for their salary.
Owner-investors were not interviewed in the survey and collected data is indirect (they are provided by operators) and incomplete (they only concern the vehicle operated by the respondent, whereas 14 owner-investors out of 62 have more than one motor bike). For these reasons and given that the amounts of discretionary cash flows are rather stable, this group was split up in two groups (work and pay and other contracts, Table 3).
Conversely, there are strong differences concerning discretionary cash flows and operator's remuneration for, respectively, owner-operators and tenant-operators (Table 1 and 2). Ranking the explicative factors of variations allows to identify the most dynamic groups of operators, and hence, to improve our understanding of the reasons for the huge development of the motorbike taxi activity. According to this objective, the construction of the operator typology is based on the major factors determining the amount of remuneration produced by operating motorbike taxis (discretionary cash flow or operator's remuneration). For each group of operators, the discriminatory nature of ten variables was tested using variance analysis. The first five variables refer to the operator's socio-demographic situation:
* age
* education level
* position in the household
* longstanding presence in Lomé
* other professional activity.

The other five variables concern the operator's motorbike taxi practice:
* length of service as motorbike taxi operator
* weekly working time
* night-time work
* work during week-end
* age of the motorbike.

Taking into account the number of respondents (147), the overall sample can be broken down into ten groups: five groups of owner-operators (Fig. 2), three groups of work and pay operators, and two groups of tenant-operators (Fig. 3).

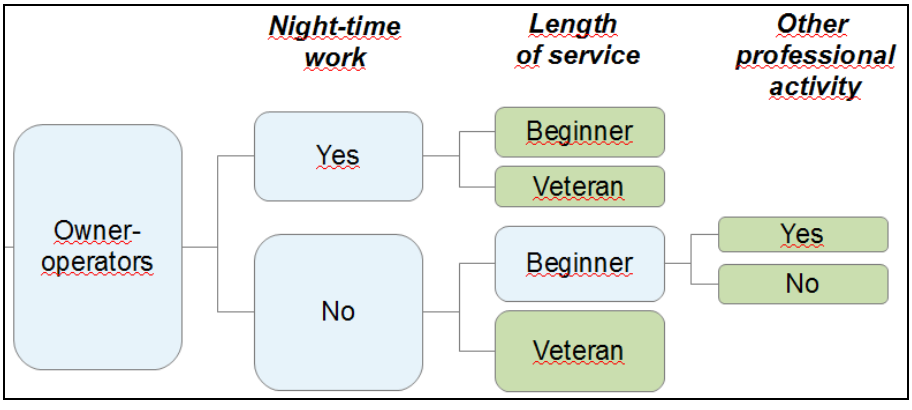


Fig. 2: Groups of owner-operators

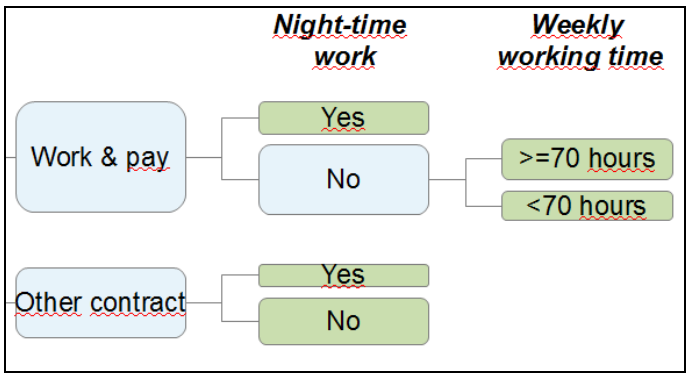


Fig. 3: Groups of work and pay operators and tenant-operators

# 4. RESULTS

## 4.1. Self-employed operators

The variance analysis shows that three of the above variables are the most relevant to explain differences in the operators' added value (Table 1). Firstly, the period of work: when it is made partly or exclusively at night time, the risk of being assaulted is higher, but the activity is notably more lucrative. Secondly, the length of service as motorbike taxi operator: a longer experience increases the added value. Lastly, for those with an experience of no more than three years and practicing another professional activity at the same time, the time spent as *oléyia* is more reduced and consequently, the added value decreases.
Other things being equal, the added value is slightly lower (10 to 15 %) compared to the cases in which the vehicle is operated by a contracted driver (especially the work and pay contract) because of a somewhat less intensive use of the motorbike. The payback period depends on the underlying assumption on the owner-operator's implicit remuneration for working with his own vehicle. In any case, the payback period is clearly shorter for those who have been in this activity for a longer time. This fact highlights the significance of the experience in the motorbike taxi activity in the production of the added value.

## 4.2. Work and pay and other renters

Among operators who do not own the motorbike, practices are strongly differentiated by the commercial relation with the vehicle owner. The drivers who are engaged in a work and pay contract work more intensely than the tenant-operators because they have to pay off their debt to the owner in order to become the owner of the motorbike. Work and pay operators get a higher remuneration than the tenant-operators because even though the amount of the rent is similar, their running costs increase more slowly than revenues (Table 2).
For all operators in this group, the key factors for the difference in remunerations are similar to those in the case of owner-operators. Whatever the type of contract between the operator and the vehicle owner, remuneration increases if the operator works partly or totally during the night-shift. Even though work at night-time increases the cost of inputs, the rise of revenues is higher.

Among the work and pay operators who work only during the day-time[5] remuneration increases because of a significant increase of the weekly working hours. For those who work at least 70 hours per week, weekly earnings increase by 50%, hardly more however than the average working time (83 hours against 58).

### 4.3. Owner-investors

Although the results of cash accounts are similar, two groups of owner-investors may be distinguished according to the type of contract with the operator, i.e. work and pay and tenant (Table 3). The first group is larger (almost three quarts of the owner-investors in the survey sample). The average discretionary cash flow is very similar to that of the second group (11,200 CFA francs per week against 10,900 CFA francs). The main difference between both groups lies in the fact that all the maintenance and repair expenses are transferred to the operators in the work and pay contracts.

The main lesson to be drawn from the results of cash accounts for both groups is the similarity, in financial terms, between two different management rationales of the *oléyia* business. The discretionary cash flow allows the replacement of the motorbike after approximately 8 months (32 weeks) in the absence of a major accident or extended immobilization of the vehicle.

[5] This is the only group which, due to its size (24 operators), can be still subdivided.

Table 1: Cash account of five groups of motorbike taxi owner-operator

| | Night-time work or mixed day and night-time Beginner | | Night-time work or mixed day and night-time Veteran | | Work only in day-time Beginner Another professional activity | | Work only in the day-time Beginner No other professional activity | | Work only in the day-time Veteran | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample size | 13 | | 14 | | 11 | | 12 | | 20 | |
| Unit | CFA francs/week | % | CFA francs/week | % | CFA francs/week | % | CFA francs/week | % | CFA francs/week | % |
| *Revenue* | *41,000* | *100* | *53,500* | *100* | *19,300* | *100* | *36,100* | *100* | *44,200* | *100* |
| Technical services | 2,400 | 6 | 2,400 | 4 | 1,700 | 9 | 1,600 | 4 | 2,400 | 5 |
| Administrative services, taxes and fees | 400 | 1 | 400 | 1 | 300 | 2 | 300 | 1 | 300 | 1 |
| Fuel | 13,500 | 33 | 17,800 | 33 | 8,200 | 42 | 17,200 | 48 | 16,900 | 38 |
| *Inputs* | *16,300* | *40* | *20,600* | *39* | *10,200* | *53* | *20,100* | *56* | *19,500* | *44* |
| ***Added Value*** | ***24,700*** | ***60*** | ***32,900*** | ***61*** | ***9,100*** | ***47*** | ***16,100*** | ***45*** | ***24,700*** | ***56*** |
| Imputed driver remuneration, low scenario | 14,900 | | 14,900 | | 5,900 | | 5,900 | | 5,900 | |
| Imputed driver remuneration, high scenario | 23,000 | | 23,000 | | 12,900 | | 12,900 | | 12,900 | |
| Discretionary cash flow, low scenario | 1,700 | | 9,900 | | -3,800 | | 3,200 | | 11,800 | |
| Discretionary cash flow, high scenario | 9,800 | | 18,000 | | 3,200 | | 10,200 | | 18,800 | |
| Motorbike purchase cost | 341,000 | | 356,000 | | 320,000 | | 339,000 | | 374,000 | |
| Payback period, low scenario (weeks) | 201 | | 36 | | Negative flow, no payback | | 106 | | 32 | |
| Payback period, high scenario (weeks) | 35 | | 20 | | 100 | | 33 | | 20 | |

Table 2: Cash account of three groups of work and pay operators and two groups of tenant-operators

| | Work & pay Night-time work or mixed day & night-time | | Work & pay In the day-time only >=70 hours per week | | Work & pay In the day-time only <70 hours per week | | Other renting contracts Night-time work or mixed day & night-time | | Other renting contracts In the day-time only | |
|---|---|---|---|---|---|---|---|---|---|---|
| Sample size | 14 | | 14 | | 10 | | 8 | | 16 | |
| Unit | CFA francs/week | % | CFA francs/week | % | CFA francs/week | % | CFA francs/week | % | CFA francs/week | % |
| *Revenue* | *55,700* | *100* | *49,200* | *100* | *40,900* | *100* | *47,600* | *100* | *30,000* | *100* |
| Technical services | 2,200 | 4 | 3,000 | 6 | 2,500 | 6 | 1,500 | 3 | 1,200 | 4 |
| Administrative services, taxes and fees | 200 | 0 | 800 | 2 | 1,100 | 3 | 500 | 1 | 300 | 1 |
| Fuel | 18,700 | 34 | 19,200 | 39 | 16,100 | 39 | 17,400 | 37 | 13,500 | 45 |
| *Inputs* | *21,100* | *38* | *23,000* | *47* | *19,800* | *48* | *19,400* | *41* | *15,000* | *50* |
| ***Added Value*** | *34,600* | *62* | *26,200* | *53* | *21,100* | *52* | *28,200* | *59* | *15,000* | *50* |
| Rent paid to the owner | 11,600 | 21 | 11,200 | 23 | 11,100 | 27 | 13,300 | 28 | 9,100 | 30 |
| **Operator's remuneration (net pay)** | **23,000** | **41** | **15,000** | **30** | **10,000** | **24** | **14,900** | **31** | **5,900** | **20** |

Table 3: Cash account of two groups of owner-investors*

| | Owner with work & pay contract | | Owner with other type of contract | |
|---|---|---|---|---|
| Sample size | 38 | | 13 | |
| Unit | CFA francs/week | % | CFA francs/week | % |
| *Revenue* | *11,300* | *100,0* | *11,600* | *100,0* |
| Technical services | 0 | 0,0 | 700 | 6.0 |
| Administrative services, taxes and fees | <50 | 0.3 | 50 | 0.4 |
| *Inputs* | *<50* | *0.3* | *700* | *6.0* |
| **Discretionary cash flow** | **11,200** | **99.1** | **10,900** | **94.0** |

| | | |
|---|---|---|
| Motorbike purchase cost | 356,000 | 351,000 |
| Payback period (weeks) | 32 | 32 |

* Owner-investors with no commercial contract with the motorbike taxi operator are excluded.

# 4. CONCLUSION

The database collected in the survey conducted in Lomé at the beginning of 2012 among motorbike taxi operators allows to analyse the revenue and the main expense items of the motorbike taxis activity, for drivers and vehicle owners. The study of revenue and operating costs for different groups of drivers and vehicle owners highlights the sensitivity of added value to the operating conditions of the motorbike. Night-time work is more lucrative than working only in the daytime, which confirms the remarks of Guézéré (2008). The socio-economic background and the experience as *oléyia* also play an important role in the production of added value. Even though there are more and more motorbike taxi operators in Lomé and competition grows tougher, remunerations seem high enough in 2012 to continue to attract young men in search of a gainful occupation.

Due to the lack of information on the lifespan of vehicles, we are not able to appreciate the return on invested capital. However, for owners-investors and self-employed owners, the added value generated in 2012 seems high enough for the motorbike taxi fleet to be renewed and to develop even further, with a payback period of approximately 8 months. The only exception is the group of beginners among owner-operators and who work exclusively in the day-time. Once they “pay themselves” for their work as a driver, it is difficult for them to generate enough discretionary cash flow to replace their vehicle in the medium term.

However, the figures on the payback period are perhaps quite optimistic because a serious accident or breakdown can reduce the added value and earnings. Some data from the survey still have to be analysed and should help to clarify this issue.

The transferability of the case of Lomé must be however be put into perspective. Several factors favour the development of *oléyias* in Lomé: the growth rate of the per capita GDP during the last years, which sustains purchasing power and transport demand, and more specifically in the transport sector, lower purchase prices of vehicles due to the massive influx of Chinese motorbikes. There are however, some weak points among which the foremost are the dependence on the overall economic situation and possible increases in fuel prices due to fluctuations in oil prices. Fuel cost is about 90% of the operating expenses of motorbike taxis.

The first results of this study give some useful inputs on the economic role of motorbike taxis in Sub-Saharan African cities. It will be completed with social and environmental issues. The analysis of the operators’ working conditions will highlight the issues in terms of public health and road safety, issues which are closely linked to this mode of transport.

A global assessment needs to take into account the mobility services delivered by motorbike taxis as well as their contribution to the public finances by way of taxes (levied on legal fuel, vehicle and spare parts imports). These elements must be weighted against social costs (health problems affecting *oléyia* operators) and environmental costs (road accidents and air pollution) in African cities. Authorities would like to banish this mode of transport and replace it by larger capacity vehicles. Beyond these positions of principle, the evolutions of the operating conditions of drivers and their distribution within the cities need an assessment of the advantages and inconveniences of this mode of transport. This assessment should be global, well-balanced and widened to all the stakeholders, who are, directly or indirectly, involved in the "motorbike taxi system".

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